

Salmon Falls/Piscataqua River

Water Quality Issues and Total Maximum Daily Load Development

Water Quality Impairment

The water quality impairments to the lower Salmon Falls River include:

- Dissolved oxygen levels that do not meet Maine's minimum Class B or C criteria in four impoundments for a total of 5.5 miles;
- Dissolved oxygen levels that do not meet NH's minimum class B criteria at Rollinsford Dam;
- Algae blooms in two impoundments and the upper estuary below point sources, and
- Conditions that fail to meet Maine's class B criteria for aquatic life below point sources.

The major causes of the impairments include:

- Phosphorus and BOD primarily from point source discharges, and the
- Presence of many dams.

Waste loads are allocated among dischargers to the Salmon Falls/Piscataqua River for:

- BOD
- Ammonia-nitrogen,
- Total Phosphorus (TP).

(The Total Maximum Daily Load (TMDL) calculation also includes allocations for natural background, nonpoint source pollution, and a margin of safety.)

Chronology of Water Quality Assessment and TMDL Development

Assessment & Phosphorus Reduction

- Late 1980's - Non-attainment for DO criteria found, ME DEP.
- 1991-1992 - Water quality sampling and data collected, ME DEP and US EPA.
- 1993 - Water quality model developed, ME DEP.
- February 1994 - Waste load allocation report prepared, ME DEP.
- 1995 - Phosphorus removal pilot project conducted by dischargers.
- April 1996 - TMDL data report prepared, ME DEP,
- 1995-1997 - Somersworth Phosphorus Reduction Project conducted, NH DES, Somersworth, et al, report August 1997;
- 1997 - EPA letter updating communities on water quality issues.

1997-1999 - TMDL Development

- 1998 - Water quality sampling conducted in summer (ME DEP, NH DES, EPA, Somersworth, Rollinsford).
- July 8, 1998 - EPA letter updating communities; July 13, 1998 Earth Tech letter to dischargers about economic analysis of treatment options.

- January 1999 - Economic Analysis final report, Earth Tech (Oct 1998 draft).
- January 25, 1999 - Draft TMDL report distributed for public comment (ME DEP).
- February 10, 1999 - Public hearing held on reclassification (ME DEP).
- February 25, 1999 - Deadline for public comment on the UAA.
- March 1, 1999 - Responses to public comment on the UAA prepared (ME DEP).
- March 10, 1999 - Deadline for public comment on the TMDL.
- May 19, 1999 - final TMDL report and response to public comments on TMDL prepared (ME DEP).
- May 21, 1999 - Reclassification of 5.5 mile segment of Salmon Falls River to Class C (from Route 9 bridge to head of tide) adopted by Maine Legislature.
- October 13, 1999 - Tables 12 and 13 of TMDL revised, following discussions between ME DEP, NH DES, and EPA.
- November 22, 1999 - TMDL approved by EPA.
- December 9, 1999 - EPA, NH DES met with Somersworth, NH on NPDES permit.
- January 5, 1999 - meeting scheduled with Berwick, ME on NPDES permit.
- January 11, 1999 meetings scheduled with Milton and Rollinsford, NH on NPDES permit.

2000-2005 TMDL Implementation

- Milton, NH, NPDES permit NH0100676 was re-issued, effective 9/2/00, with a compliance deadline of May 1, 2002 to meet the final TP load of 2 lb/day on a seasonal basis (5/1-9/30); an interim requirement to report TP is in effect. Milton has a design flow of 0.1 MGD and is located 15 miles upstream of the non-attainment segment.
- Somersworth, NH, NPDES permit NH0100277 was re-issued, effective 11/28/00, with a compliance deadline of 9/30/05 to meet the final effluent limit of 0.5 mg/l TP on a seasonal basis (5/1-9/30); an interim effluent limit of 1 mg/l TP is in effect. Somersworth has a design flow of 2.4 MGD and is located within the non-attainment segment.
- Rollinsford, NH, NPDES permit NH0100251 was re-issued, effective 01/24/01, with a compliance deadline of 9/30/03 to meet the final effluent limit of 1 mg/l TP on a seasonal basis (5/1-9/30); an interim requirement to report TP is in effect. Rollinsford has a design flow of 0.15 MGD and is located within the non-attainment segment.
- Berwick, ME, NPDES permit ME0101397 is scheduled for re-issuance by EPA in January 01. The permit will have a compliance deadline of 6/1/03 to meet the final effluent limit of 0.5 mg/l TP on a seasonal basis (5/1-9/30); an interim effluent limit of 1 mg/l TP will be in effect. Berwick has a design flow of 1.1 MGD, receives high-strength waste from a tannery, and is located within the non-attainment segment.
- South Berwick, ME, NPDES permit ME0100820 is scheduled for re-issuance by EPA in January 01. The permit will have an effluent limit of 1.0 mg/l TP on a seasonal basis (5/1-9/30), effective immediately. South Berwick has a design flow of 0.6 MGD, has been removing TP year-round on a voluntary basis for several years and needs no treatment upgrade to comply with the new permit conditions.